

**What is Claimed is:**

1. A driving apparatus for active matrix organic light emitting display to display each pixel of a display picture, comprising:

5 a data line, a scan line, an auto-zero control line, a display control line, a power supply line;

a writing element which has a drain connecting to the data line, and a gate connecting to the scan line;

an auto-zero element which has a gate connecting to the auto-zero control line;

10 a driving element which has a gate connecting to a source of the writing element and a drain connecting to a source of the auto-zero element, and a source connecting to the power supply line;

a switching element which has a gate connecting to the display control line and a source connecting to the source of the auto-zero element  
15 and the drain of the driving element;

a storage element which has two ends, one end connecting to the source of the driving element and other end connecting to a juncture of the source of the writing element, a drain of the auto-zero element and the gate of the driving element; and

20 an illuminating element which has one positive end connecting to the drain of the switching element and the other negative end grounded.

2. The driving apparatus for active matrix organic light emitting display of claim 1, wherein the writing element is a thin film transistor.

3. The driving apparatus for active matrix organic light emitting display  
25 of claim 1, wherein the auto-zero element is a thin film transistor.

4. The driving apparatus for active matrix organic light emitting display of claim 1, wherein the driving element is a thin film transistor.
5. The driving apparatus for active matrix organic light emitting display of claim 1, wherein the switching element is a thin film transistor.
- 5 6. The driving apparatus for active matrix organic light emitting display of claim 1, wherein the storage element is a storage capacitor.
7. The driving apparatus for active matrix organic light emitting display of claim 1, wherein the illuminating element is an organic light emitting diode.
- 10 8. A driving method for active matrix organic light emitting display, comprising steps of:
  - dividing driving time sequence in an auto-zero phase, a scan phase and a display phase;
  - setting a writing element and an auto-zero element OFF, and a driving element and a switching element ON before entering the auto-zero phase, allowing a current of a preceding frame to flow through an illuminating element, the current being controlled by  $V_{sg}$  of the driving element (the voltage difference between a source and a gate);
  - setting the auto-zero element ON after having entered the auto-zero phase, connecting drain and gate of the driving element to form a diode connection, then setting the switching element OFF, raising the voltage of the gate of the driving element to a voltage value equal to a high voltage subtracting the threshold voltage of the driving element, i.e. the voltage

difference between two ends of a storage element being the threshold voltage of the driving element, then setting the auto-zero element OFF, and storing the threshold voltage of the driving element in the storage element to complete operations of the auto-zero phase; and

- 5 entering the scan phase, setting the writing element ON, providing a "constant current  $I_c$ " on a data line to charge the storage element for a time period to allow the voltage of the gate of the driving element to become  $(V_{dd} - V_{th} - (I_c \times T_c / C))$  ( $C$  being the capacitance of the storage element  $C_s$ ), i.e. the voltage difference between two ends of the storage  
10 element being  $(I_c \times T_c / C)$  plus the threshold voltage of the driving element originally stored in the storage element so that  $V_{sg}$  of the driving element includes the threshold voltage of the driving element to allow current output by the driving element relating only to the constant current on the data line and the charging time of the constant current for the storage  
15 element;

whereby by modulating the constant current of the data line and charging time of the constant current for the storage element, current output from the driving element is adjustable to control the brightness illuminated by the illuminating element.